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## NOTES ON CLIMATOLOGY.

BY

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ANTARCTIC METEOROLOGY.—The Great Unknown of Antarctic Meteorology is disappearing. Slowly at first, and then more rapidly, did the meteorological data brought back by South Polar expeditions make it possible to carry the mean annual and mean monthly isobars and isotherms of the earth's surface with greater and greater accuracy to higher southern latitudes. With the elaborate meteorological equipment, which comprises balloons and kites, of the present British and German Antarctic expeditions, and with the co-operation which is planned between these expeditions, it is certain that within the next few years we shall gain in our knowledge of the meteorological conditions in the Antarctic more than has been gained in all the preceding years of Antarctic exploration. This is, therefore, a fitting time to gather up what is now known about the interesting weather conditions of the Far South. In a recent article in *Petermanns Mitteilungen* (1901, 128 *et seq.*), which has been translated in the *Scottish Geographical Magazine* for September (pp. 473-480), Supan considers *Antarctic Climate* in an admirably concise summary, which will be found useful by any one who seeks information on this subject. Supan points out particularly the importance of the results of the *Valdivia* and *Belgica* expeditions. In the *Journal of School Geography* for last May, George D. Hubbard considers *The Meteorological Conditions of the South Polar Regions* in a less inclusive manner. This article, however, sets forth the main facts of note, and points out the importance of the pressure and wind observations in relation to the theory of the general circulation of the atmosphere. In this connection it is well also to call attention to the publication of an *Antarctic Manual*, prepared for the use of the members of the British Antarctic Expedition under the editorship of Sir George Murray, F.R.S. Articles in this volume concern, among other subjects, ice nomenclature, astronomical data, terrestrial magnetism, climate, wave observations, atmospheric electricity, the aurora, geology, volcanic action, ice observations, zoology, botany, sledge travelling, geography and an Antarctic bibliography. The *Manual* contains, in a very condensed form, practically all that is known about the South Polar regions.

THE MOON AND THE WEATHER.—The relation between the moon and various weather phenomena is a subject in the investigation of which a good many persons have spent a good deal of time without the attainment of noteworthy results. During the past year there has been some revival of interest in this matter because of the appearance of a new journal devoted to the publication of articles on this subject. This journal, *Climat*, is under the editorship of M. Nicolai Demtschinsky, of Torbino, Russia. It is printed bi-monthly, at St. Petersburg, in four languages, viz., English, German, French, and Russian. The practical prediction of the weather for a long time in advance, by means of certain conclusions based on supposed lunar influences, is the topic to which the earlier numbers of this journal were devoted. In Nos. 1 and 2, M. Demtschinsky published a series of curves showing the probable course of the barometer and thermometer at a number of European stations during April. Dr. H. R. Mill, in *Symons's Monthly Meteorological Magazine* for May, made a careful comparison of the predicted and of the actual weather conditions at Aberdeen and Valencia. This, so far as we have seen, is the only published comparison of prediction with fact of observed weather. Dr. Mill found, as was to be expected, that "practically the forecasts as a whole would appear to be valueless," so far at least as those two stations are concerned. It is unlikely that *Climat* will live long, or that it will receive much attention from men of science.

HOT WAVES.—A report on hot waves in the *Yearbook of the Department of Agriculture* for 1900 is of special interest at the present time, in view of the excessive heat of last July. A study of three notable hot spells is illustrated by maps showing the distribution of pressure and temperature over the continent during these spells. The conditions are fairly similar in each case, viz., an area of moderately high pressure in the sub-tropical region to the southeast; an area of moderately low pressure in the north central States, and a second area of high pressure on the west or north-west coast. A slow flow of air results from the southeastern anti-cyclone to the central cyclone, and the extreme temperatures occur between these two regions. The intense heat is due largely to the clear sky, which allows a very free passage of insolation. The radiation at night seems to be slight; and this is stated to be due to the presence of much transparent water vapour in the higher strata of the atmosphere, which checks the outward passage of the coarse-waved terrestrial radiations.

A NEW TEXT-BOOK OF METEOROLOGY.—The latest text-book of meteorology, which was published early in the summer, is by Dr. Börnstein, professor in the Royal Agricultural High School at Berlin (*Leitfaden der Wetterkunde*). Within the limits of 156 octavo pages, the author has given an excellent presentation of his subject, in such a way that beginners may read his book with profit. The most important recent developments of the science, so far as they lie within the limits set for himself by the author, are included. Thus, for example, the noteworthy conclusions reached by Pettersson and Meinardus concerning seasonal forecasts for Europe based on certain characteristics of the Gulf Stream, and the meteorological results obtained during recent balloon ascents, are considered. The chapter on weather is particularly complete. The weather types of Köppen and van Bebbber are explained, and numerous weather maps are given as illustrations. The book shares with most German text-books the great disadvantage of having no section headings. There is a good working bibliography, mostly confined to German publications, and nine colored plates, reproduced from the International Cloud Atlas, illustrate the cloud types.

LORIN BLODGET.—Lorin Blodget died in Philadelphia on March 24 of the present year, at the age of 78. Blodget's name is not commonly known to the younger generation of scientific men in this country, but his writings on meteorology entitle him to a place among those who have contributed to the development of this science in the United States. Blodget's interest in meteorology began when he was about twenty years old. He became a voluntary observer of the Smithsonian Institution, and was later employed by Professor Joseph Henry in reducing meteorological records. In 1857 Blodget published his great work on the *Climatology of the United States*—a book which has for many years been out of date in its statistical portions, but which nevertheless contains a good deal of general information about the larger climatic features of the country that is still useful. This *Climatology* is a book of 536 pages, and contains a large number of tables and charts. Some idea of the wide field which the author intended his work to cover may be gained from the title, which is as follows:

“Climatology of the United States, and of the Temperate Latitudes of the North American Continent. Embracing a Full Comparison of these with the Climatology of the Temperate Latitudes of Europe and Asia, and especially in regard to Agriculture, Sanitary Investigations and Engineering. With Isothermal and Rain Charts for each Season, the extreme Months, and the Year. Including a Summary of the Statistics of Meteorological Observations in the United States, condensed from recent Scientific and Official Publications.”